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ABSTRACT

This paper presents an introductory lesson for elementary learners to construct ideas about how print began and about the media upon which it was recorded. In the lesson's introduction, students examine the present state and constant flow of print to which people are exposed, focusing primarily on the technology of the computer. Students examine the print and writing of ancient civilizations, exploring the Egyptians and their hieroglyphs and the Persians and their early cuneiform text. A variety of print media used during the subsequent historical periods is presented to the students. The children are given autonomy to choose ideas for research and to create peer learning centers that focus on print as an ever changing technology. The lesson meets four National Council for the Social Studies standards for social studies; lists six educational objectives; provides additional information; and gives detailed procedures and assessment methods. The unit also suggests related topics and pertinent issues about the evolution of printed information. (BT)

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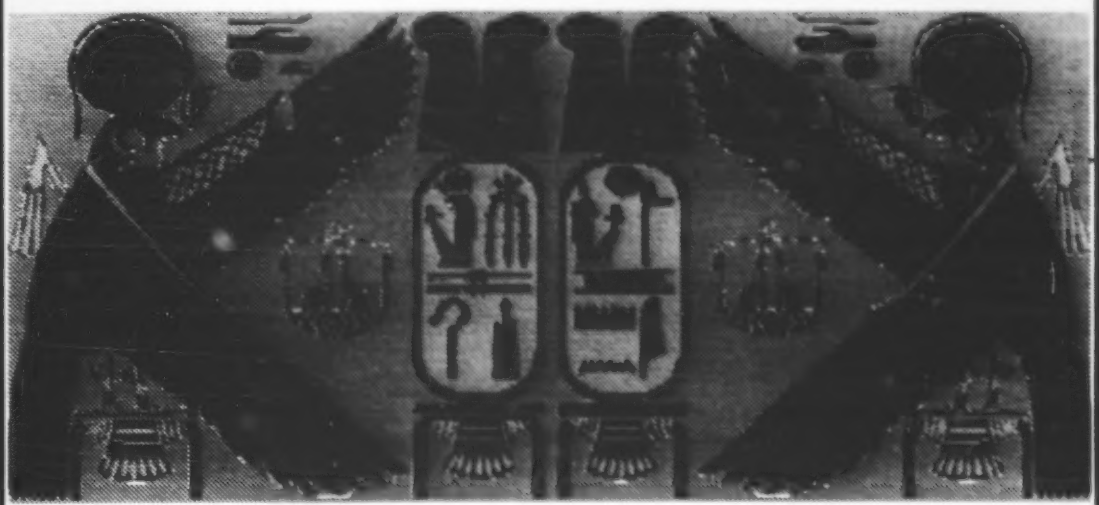

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Technological Change in Written Information

"If you wou'd not be forgotten
As soon as you are dead and rotten,
Either write things worth reading,
or do things worth the writing."

Benjamin Franklin

Rationale:

Recording ideas, stories, and laws began thousands of years ago. Literally, the word "book" comes from the Old English meaning, "written sheet." Indeed, technological change has transformed the ways in which writing has been documented. Myriad forms of mediums, "sheets", have been written upon, ranging from stone and leaves to parchment and paper, and presently, upon screens via cyberspace.

This introductory lesson plan will provide a learning experience for elementary learners to construct conceptions about how print began and some of the forms on which it was recorded. In this initial learning cycle, and in order to make a relevant connection, students will first examine the present state and constant flow of print of which we are exposed, focusing prominently on the technology of the computer. Students will then be transported from thinking about print in 1997 to examining the print and writing of ancient civilizations. The Egyptians and their hieroglyphs, and early Persian (Iranian) cuneiform text which recorded information, will be explored. A variety of medium used for print during varied historical periods will be introduced as well. In this learning cycle, students are given autonomy to choose areas of interest for research and to create learning centers for their peers about print as an ever changing technology.

NCSS Curriculum Standards for Social Studies:

II - Time, Continuity and Change: Major emphasis

IV - Individual Development and Identity: Minor emphasis

VIII - Science, Technology, and Society: Major emphasis

IX - Global Connections: Minor emphasis

Objectives:

- Students will develop a list of the ways in which print is prevalent and impacts our lives today.
- Students will hypothesize the ancient beginnings of print.
- Students will be able to describe the concepts of cuneiform, hieroglyphs, papyrus rolls, artisan and scribe.
- Students will research and gather information to communicate ways in which print originated in varied early civilizations.
- Students will be able to describe how the technology of printed information has evolved from ancient civilization to the present day.
- Students will hypothesize future technological advances in regards to print.

Suggested grade level: 4th - 6th grade

Time Frame: ***1 - 2 weeks***

Lesson Plan Procedures:

Exploration: Begin by asking your students, "How long has it been since you learned the alphabet and learned to write your name?" Discuss students' personal history of learning to write. Ask about the importance of print in today's world. Create and set up these six suggested centers with the following artifacts for examination;

1. A variety of books, one book with an accompanying audio-taped version,
2. Letters, advertisements, and junk mail,
3. Magazines of various types,
4. A computer with three or so internet addresses to view,
5. A CD ROM such as Encarta's, *Virtual Globe*.
6. And, miscellaneous types of newspapers, including a school paper if available.

Have students break up into learning groups of 3-4. Have students rotate by groups through the centers examining the various print sources exhibited, keeping a journal to record impressions as they rotate, and answering these specific questions:

1. How is this form of print important in my life?

2. Where do you think this type of print originated geographically, by whom?

3. When do you think it originated?

4. In which ancient civilizations do you think it might have originated?

Invention: In the next class session, ask students to share the hypotheses drawn from the previous class center exploration. Discuss each question and the responses addressed in their journals. Document their hypotheses on large chart papers. Tell students that they will begin to study some ancient forms and writing systems.

Having realia for center work is advisable. Again, develop and set up the following suggested centers representing ancient forms of writing. Examples of the form of writing and materials to practice the ancient forms should be supplied. Have groups rotate through these three centers:

1. **Cuneiform Writing** - Wedge-shaped characters that are wide at one end and pointed at the opposite end were ancient characters used to record printed information. Cuneiforms were often written on clay tablets and rock formations. The references cited in this paper will enable you to develop this center. A few helpful web sites are:

http://www.sron.ruu.nl/~jheise/akkadian/cuneiform.html#pictogram

http://www.sron.ruu.nl/~jheise/akkadian/cuneiform.html#tokens

http://www.sron.ruu.nl/~jheise/akkadian/cuneiform.html

2. **Hieroglyphs** - Ancient Egyptian word pictures that number close to seven hundred individual hieroglyph signs were an Egyptian form of writing. In addition to the references in this paper, helpful web sites include:

http://www.amargiland.com/mysterious.glyphs/main.gallery.html

http://www1.torstar.com/rom/egypt/

3. **Chinese Character Writing** - Characters represent words, and may be added to creating different renditions of the root word. Chinese characters are easily located. Calligraphy done on any medium would be appropriate for display. Have students examine the characters displayed on various items such as clay, silk, parchment and paper scrolls. Ask them to choose characters representing nature to print on construction paper later to be fashioned into a paper lantern.

Expansion: Plan to extend the expansion phase over a few days of class. Allow students to choose one type of ancient writing to research, which can be negotiated with you. Be certain each group has chosen different aspects of the similar topics to research. Set a reasonable time span in which they must complete their research. Then ask students to create centers about their particular area of interest which includes background information about the topic chosen, examples of writing from a civilization and an activity for their classmates to practice the writing system on an artifact from that culture. For instance, if a group of students choose Ancient Egyptian writing, then they would have an activity to write in hieroglyphs upon an urn. Other ideas for the activity may include students creating: mobiles, brochures, cartoons, or songs or raps to write in the ancient form. The writing may be accomplished on various types of materials such as rocks, leaves, parchment, wood, silk or other fabric, etc. Once all centers are completed spend one class session rotating groups through the centers.

As they rotate through the centers ask them to keep documentation about their discoveries through this experience:

1. Name the systems of writing that you have experienced.
2. What about this system or civilization interests you?
3. What three important things did you discover from each center experience?
4. What did you learn that surprised you?
5. What questions did your learning experience cause you to ask?
6. Hypothesize the ways in which printed information of today may evolve into the future.

Assessment

Students' journals, writing products accomplished in collaborative groups within the student designed centers, and individually accomplished documentation about completed center activities are products for assessment. Additionally, a reflective journal entry which documents what students learned from the unit study would also serve as assessment. Student designed rubrics for the centers they develop would be an appropriate means of authentic assessment.

Additional Suggestions for Related Topics of In-depth Thematic Study about the Changing Technology of Writing and Print

The Study of Ancient Civilizations:

Mesopotamian Civilization - Sumerians and Assyrians

Egyptian Civilization

Indian Civilization

Mayan Civilization

Chinese Civilization

The Evolution of Paper - Materials used for Writing

Bamboo

Clay Tablets

Hides of Animals

Leather

Palm Leaves

Papyrus

Parchment from Sheepskin

Silk

Stone

The Study of Important Historical Figures

in the Evolution of Printed Information

William Caslon (1692 - 1766) an inventor of various types and a supplier of them

William Caxton (1422 - 1491) a printer and publisher in England

Denis Diderot (1713 - 1764) a French writer who compiled an encyclopedia on the arts and sciences

Francios-Ambroise Didot (1730 - 1804) A French printer whose son helped invent the point system to measure type

Gustave Dore (1832 - 1883) An illustrator in texts who began his craft at age 15.

Benjamin Franklin (1706 - 1790) An inventor and statesman, Franklin learned the art of printer in London. He set up a printshop in Philadelphia.

Johannes Gutenberg (1390 - 1468) The "father of printing," Gutenberg printed the first ***The Bible***.

Aldus Manutius (1452 - 1515) He printed Latin and Greek classics. He was the first to print in italics and to develop practical sized texts.

William Morris (1834 - 1896) He invented a printing press which used art and design to enhance manuscript type.

Ts'ai Lun (50 - 118) He develop the ingredients for a form of ink and also a paper replacement for the silk and bamboo materials used for written texts.

Pertinent Issues for Study of in the Evolution of Printed Information

- **Book Burning**
- **Book Sellers**
- **Censorship**
- **Color in Printed Images**
- **Power of the Press**
- **Propaganda**

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